REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. Claim 1 was amended to clarify that each of the organic coating films are comprised of a monomolecular film having a functional group. Support for this amendment can be found throughout the written description. (See, e.g., p. 6, l.26 - p. 7, l. 11, Figs. 1-9; p. 9, ll. 15-33; p. 19, ll. 19-37; p.-47, ll. 2-18). Claims 36-40 were amended in a similar manner. No other amendments were made to the claims. Thus, the amendments do not add any new matter.

Response to Restriction Requirement

The Examiner requested confirmation of the election of Group I of the claims in response to the previous restriction requirement. While applicant respectfully maintains its traversal of the restriction requirement, it elects Group I, which corresponds to claims 1-12 and 36-40. The applicants' basis for this traversal is that they do not wish to be bound by the Examiner's reasoning in invoking the restriction requirement.

Rejection under 35 U.S.C. § 102(b): Anticipation by Natan

Claims 1-6, 9-10, and 12 were rejected under 35 U.S.C. § 102(b) as anticipated by Natan (U.S. Pat. No. 5,609,907). The applicants respectfully traverse this rejection. Claim 1 requires a substrate provided with a layer of aligned particles in which an organic coating film is bonded to a surface of the fine particles, and an organic coating film is bonded to a surface of the substrate. Claim 1 further requires that each of the organic coating films comprises a monomolecular film, and each monomolecular film has functional groups that bind to each other so as to align and immobilize the fine particles on the substrate.

Natan teaches a substrate in which the organic coating film bonded to the substrate is a polymer. (Col. 2., l. 61 - Col. 3., l. 9). Polymers have a larger volume than that of monomolecular films. The increased volume of the polymer introduces unevenness onto the substrate. Figures 1 and 20 in Natan illustrate the irregularities introduced to the surface of the substrate by the polymer. When a monomolecular film is used, this unevenness can be avoided, producing a product more suitable for industrial applications such as a high-density magnetic

recording medium. Since Natan fails to disclose this feature of claim 1, it fails to anticipate claim 1.

As previously mentioned, claim 1 also requires that a monomolecular film be bonded to the aligned fine particles provided on the substrate. Natan fails to disclose this feature of claim 1 as well. For at least these reasons, Natan fails to anticipate the claim 1. The remaining claims subject to this rejection depend from claim 1, an allowable base claim. For at least this reason, Natan fails to anticipate these claims as well.

Rejection under 35 U.S.C. § 102(b): Anticipation by Nguyen

Claims 1, 4, 9, 10, and 12 were rejected under § 102(b) as anticipated by Nguyen (WO 82/02403). The applicants respectfully traverse this rejection. Claim 1 requires a substrate provided with aligned fine particles wherein an organic coating is formed on both the substrate and the fine particles. Both of these organic coatings are made up of a monomolecular film having functional groups, wherein the monomolecular films function to align and immobilize the fine particles on the substrate.

Nguyen teaches a photo setting composition for coating substrates with an abrasion resistant, transparent film. While Nguyen teaches coating fine SiO_2 and Al_2O_3 particles with an organic coating, this organic coating is made of a photopolymerizable composition. (p. 1, ll. 3-6). As previously mentioned, polymer coatings have a larger volume than that of a monomolecular coating. The increased volume of the polymeric film renders the film less capable of bonding to the fine particles than a monomolecular layer. Consequently, the polymeric composition taught by Nguyen cannot provide the equivalent bonding force between the substrate and the fine particles achieved through the use of a monomolecular film. This renders the invention disclosed in claim 1 more suitable for industrial application than the substrate taught by Nguyen.

Nguyen also fails to teach the use of a monomolecular film for binding to the surface of the substrate. Accordingly, the applicant respectfully contends that Nguyen fails to anticipate claim 1. For at least the reason that the remaining claims subject to this rejection depend from claim 1, Nguyen fails to anticipate these claims as well.

Rejection Under 35 U.S.C. § 103: Natan In View Of Jin

Claim 11 was rejected under 35 U.S.C. § 103(a) as obvious over Natan in view of Jin (U.S. Pat. No. 5,045,249). The applicants respectfully traverse this rejection. Claim 11 discloses a substrate provided with aligned fine particles wherein a monomolecular organic film is bonded to the fine particles and the substrate. The monomolecular films have functional groups which bind to each other in order to align and immobilize the particles on the substrate.

There is no motivation to modify the composition of Natan with the teachings of Jin. The method disclosed in Natan is directed towards the preparation of self-assembled metal colloid monolayers used in surface enhanced Raman scattering ("SERS"). (Col. 1, ll. 7-40). The fine particles used in this device are gold and silver. These materials are critical to the substrate's ability to perform SERS. (See col. 1, ll. 38-40). For this reason, there would be no motivation to modify the use of the silver or gold fine particles with the magnetizable particles taught by Jin. In addition, these references involve different problems in completely different fields. Thus, Natan in view of Jin cannot be combined to render claim 11 obvious.

Moreover, even if Natan could be modified by Jin as suggested by the Examiner, Jin does not remedy the deficiencies of Natan discussed above. Accordingly, the Applicant respectfully contends Natan in view of Jin fails to render claim 11 obvious.

Rejection Under 35 U.S.C. § 103: Sasaki In View Of Natan

Claims 36-38 were rejected under § 103 as obvious over Sasaki (U.S. Pat. No. 6,404,602) in view of Natan. The applicants respectfully traverse this rejection. Claims 36-38 require magnetoresistive devices in which there is a substrate provided with aligned fine particles. In these devices, a monomolecular organic film is bonded to the fine particles and to the substrate. The monomolecular films have functional groups that bind to each other in order to align and immobilize the particles on the substrate.

There is no motivation to modify the teachings of Sasaki with those of Natan. Sasaki teaches a magnetoresistive device in which an organic layer is formed on a substrate wherein the organic layer acts as a photoresist insulating layer. (Col. 5, ll. 4-13). Sasaki defines the insulating layer as "a film which has at least an electrically insulating property." (Col. 10, ll. 20-

29). Natan teaches the preparation of self-assembled metal colloid monolayers used in surface enhanced Raman scattering. (Col. 1, ll. 7-40). The fine particles used in this device are gold and silver. There is no motivation to modify the insulating layer of Sasaki by adding the silver and gold particles taught by Natan. Moreover, these references aim to solve different problems faced in different fields. Accordingly, these references should not be combined in an attempt to render claims 36-38 obvious.

Moreover, neither Sasaki nor Natan teaches or suggests the use of a monomolecular film as an organic coating film to create a substrate providing aligned fine particles. As discussed above, the use of a monomolecular film creates a smoother substrate surface for aligning fine particles. Furthermore, this monomolecular film provides a better binding force between the fine particles and the substrate than a polymer provides. Accordingly, the Applicant respectfully contends Sasaki in view of Natan fails to render claims 36-38 obvious.

Rejection Under 35 U.S.C. § 103: Taguchi In View Of Natan

Claims 39-40 were rejected under § 103 as obvious over Taguchi (U.S. Pat. No. 6,465,342) in view of Natan. The applicants respectfully traverse this rejection. Claims 39-40 require a semiconductor memory device having a barrier layer. A monomolecular film is formed on, and bonds to, the barrier layer. A monomolecular film is also formed on, and bonded to, the surfaces of fine particles. These monomolecular films have functional groups which bind to each other in order to align and immobilize the fine particles on the barrier layer.

There is no motivation to modify the teachings of Taguchi with those of Natan. Taguchi teaches a semiconductor device having an organic insulating layer. (Col. 2, ll. 38-45). As with the Sasaki reference, there is no motivation or suggestion to modify the organic insulating layer in Taguchi with the organic layer including fine gold and silver particles taught by Natan. Furthermore, these references involve different fields of endeavor, and aim to solve unrelated problems. Accordingly, Taguchi and Natan should not be combined in an attempt to render claims 39 and 40 obvious.

Moreover, neither Taguchi nor Natan teaches or suggests the use of a monomolecular film as an organic coating film to create a substrate providing aligned fine particles. As

discussed above, the use of a monomolecular film creates a smoother substrate surface for aligning and binding the fine particles. Furthermore, this monomolecular film provides a better binding force between the fine particles and the substrate than a polymer provides. Accordingly, the Applicant respectfully contends Taguchi in view of Natan fails to render claims 39-40 obvious.

In view of these arguments, Applicant respectfully requests reconsideration of the application in the form of a Notice of Allowance.

Date: January 16, 2004

Respectfully submitted,

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